

Title (en)

DISPLAY DEVICES AND ARTICLES WITH COLOR-MATCHED DISPLAY AND NON-DISPLAY AREAS

Title (de)

ANZEIGEVORRICHTUNGEN UND GEGENSTÄNDE MIT FARBANGEPASSTEN ANZEIGE- UND NICHTANZEIGEFLÄCHEN

Title (fr)

DISPOSITIFS D'AFFICHAGE ET ARTICLES AYANT DES ZONES D'AFFICHAGE ET DE NON-AFFICHAGE EN CORRESPONDANCE DE COULEUR

Publication

EP 4073559 A4 20240124 (EN)

Application

EP 20900310 A 20201202

Priority

- US 201962947086 P 20191212
- US 2020062765 W 20201202

Abstract (en)

[origin: WO2021118835A1] A display device that includes: a glass substrate comprising a refractive index ($n_{\text{substrate}}$); a display device structure coupled to the substrate to collectively define a viewing area; and a black mask structure surrounding the display device structure that is coupled to the substrate and comprises a black ink layer and at least one glossy layer between the black ink layer and the glass substrate. The viewing area is characterized by (a) a reflectance from 0.5% to 2.5% as measured at 8 degrees from normal in the visible spectrum, (b) a brightness in the CIE colorimetry system such that $5 < L^* < 17$ for the specular component included (SCI), and (c) a brightness in the CIE colorimetry system such that $0 < L^* < 3$ for the specular component excluded (SCE). Further, the at least one glossy layer comprises a refractive index (n_{glossy}) such that $|n_{\text{glossy}} - n_{\text{substrate}}| > 0.1$.

IPC 8 full level

G02F 1/1333 (2006.01); **B32B 3/26** (2006.01); **B32B 7/12** (2006.01); **B32B 9/00** (2006.01); **B32B 9/04** (2006.01); **B32B 17/10** (2006.01); **B32B 27/06** (2006.01); **C03C 17/34** (2006.01); **G02F 1/1335** (2006.01); **B44F 1/06** (2006.01)

CPC (source: EP KR US)

B32B 3/263 (2013.01 - EP); **B32B 7/12** (2013.01 - EP); **B32B 9/005** (2013.01 - EP KR); **B32B 9/04** (2013.01 - EP);
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C03C 17/34 (2013.01 - EP KR); **G02B 1/04** (2013.01 - US); **G02B 6/0041** (2013.01 - US); **G02B 6/0065** (2013.01 - US);
G02F 1/133388 (2021.01 - KR); **G02F 1/133512** (2013.01 - EP KR); **B32B 2250/44** (2013.01 - EP KR); **B32B 2255/20** (2013.01 - EP KR);
B32B 2255/26 (2013.01 - EP KR); **B32B 2255/28** (2013.01 - EP KR); **B32B 2307/402** (2013.01 - EP KR); **B32B 2307/41** (2013.01 - EP KR);
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C03C 2217/445 (2013.01 - EP KR); **C03C 2217/475** (2013.01 - EP KR); **G02B 2207/107** (2013.01 - US); **G02F 1/133388** (2021.01 - EP);
G02F 1/133502 (2013.01 - EP)

Citation (search report)

- [XAI] US 2012147303 A1 20120614 - YAMADA NOBUAKI [JP], et al
- [XAI] US 2019258107 A1 20190822 - FUJII KENSUKE [JP]
- [A] KR 20160097445 A 20160818 - SAMSUNG DISPLAY CO LTD [KR]
- See references of WO 2021118835A1

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KR 20220112288 A 20220810; TW 202142418 A 20211116; US 2023032209 A1 20230202

DOCDB simple family (application)

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